

## **REMARKS**

### ***Overview***

In the Office Action under reply, claims 1-15, 18, 19, and 21-35 are pending, claims 16, 17, and 20 having been canceled previously. Claims 1-19 and 21-35 are rejected under 35 U.S.C. §103 as unpatentable over Zampini et al., 2003/0027077 ("Zampini") in view of Fedynyshyn, US 6,468,712 ("Fedynyshyn"). Applicants note that claims 16 and 17, identified as rejected on Page 2 of the Action, are no longer pending for having been previously canceled. The rejection is traversed for at least the reasons set forth below.

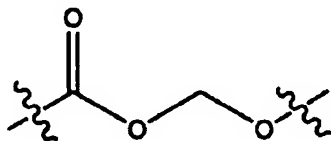
### ***Claim amendments***

With the amendment made herein, claim 1 has been amended to recite "...baking the exposed film at a post-exposure bake temperature below about 100 °C..." Support for this amendment can be found, for example, in claim 1 as originally filed.

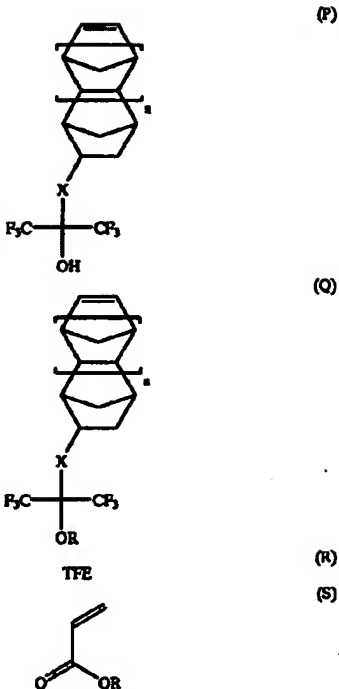
### ***Rejection under 35 U.S.C. §103(a)***

Claims 1-15, 18, 19, and 21-35 stand rejected under 35 U.S.C. §103(a) as unpatentable over Zampini in view of Fedynyshyn. This rejection is traversed.

Claim 1 (in part) requires coating a substrate with a film of a photoresist composition comprised of "a polymer that is rendered soluble in aqueous base at a temperature of less than about 100 °C by acid-catalyzed deprotection of pendent acetal- or ketal-protected carboxylic acid groups" (emphasis added). Representative monomers suitable for preparing such polymers are provided in paragraph [00095] of the original specification. Each of the monomers comprises an acetal- or ketal-protected carboxylic acid group, i.e., each of the monomers comprises the following fragment:



The Examiner cites Zampini at "paragraphs [0041]-[0043] which discloses the preferred monomer groups as follows:"



In the formulae (P) and (Q), X is  $(-\text{CH}_2-)_p$  where p is zero, 1, or 2, or  $-\text{OCH}_2-$  or  $-\text{CH}_2\text{O}-$ . In formula (R), TFE is tetrafluoroethylene. In formula (S), R is hydrogen or optionally substituted alkyl. Although formulae (P) and (Q) may have ketal groups, none of the compounds of formulae (P)-(S) comprise an *acetal- or ketal-protected carboxylic acid group*, as required by the pending claims. In fact, applicants can find no instances within Zampini of acetal- or ketal-protected *carboxylic acid* groups.

The Examiner states that Fedynyshyn discloses "post-exposure bake at temperatures as recited in column 22, lines 4-12 wherein the range is from 'about 50 °C to about 160 °C'," and that it would have been obvious to perform a post-exposure bake on the photoresist of Zampini according to the methods of Fedynyshyn. Regardless of whether Fedynyshyn teaches post-exposure baking, however, Zampini does not teach a process for patterning a substrate by coating the substrate with a film of a photoresist composition comprised of a polymer that is rendered soluble in aqueous base at a temperature of less than about 100°C by acid-catalyzed deprotection of pendent acetal- or ketal-protected carboxylic acid groups, as required by claim 1. Furthermore, Fedynyshyn also does not teach the use of a polymer that is rendered soluble in aqueous base by acid-catalyzed deprotection of pendent acetal- or ketal-protected carboxylic acid groups. Since a rejection under 35 U.S.C. §103 requires that the reference(s) teach or suggest all of the claimed

limitations (see MPEP §2142), the Examiner has failed to meet the requirements for a *prima facie* case of obviousness over the combination of Zampini and Fedynyshyn. Applicants therefore respectfully request withdrawal of the rejection.


***Previous Rejection of the Claims***

Applicants note that, in the Office Action mailed on September 19, 2006, claims 1-19 and 21-35 were rejected under 35 U.S.C. §102(e) as anticipated by Zampini. In applicants' reply dated December 4, 2006, claim 1 was amended to recite a post-exposure bake temperature of less than about 70 °C. With the amendment set forth herein, claim 1 has been amended to recite a post-exposure bake temperature of less than about 100 °C. In light of the arguments set forth above, Zampini clearly does not anticipate the pending claims, as there is no mention within the disclosure of Zampini of a polymer comprising an acetal- or ketal-protected carboxylic acid group.

**CONCLUSION**

Applicants submit that the claims of the application are in condition for allowance. Applicants respectfully request withdrawal of the rejections, and prompt issuance of a notice of allowance. If the Examiner has any questions concerning this communication, or would like to discuss the application, the art, or other pertinent matters, a telephone call to the undersigned would be welcomed.

Respectfully submitted,

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